

WHAT IS CLAIMED IS:

1                   1. A method of transmitting video information comprising:  
2                   (a) obtaining a first video frame containing image data;  
3                   (b) obtaining structural information inherent in said image data;  
4                   (c) obtaining a second video frame to be encoded relative to said first  
5 video frame;  
6                   (d) computing kinetic information for describing said second video frame  
7 in terms of said structural information of said first video frame; and  
8                   (e) transmitting said kinetic information to a decoder for use in  
9 reconstructing said second video frame based on said decoder's generation of said  
10 structural information of said first video frame.

1                   2. A method of transmitting video information comprising:  
2                   (a) obtaining a first video frame containing image data;  
3                   (b) obtaining structural information inherent in said image data.  
4                   (c) obtaining a second video frame to be encoded relative to said first  
5 video frame;  
6                   (d) encoding second video frame using adaptive coding dependent on said  
7 structural information; and  
8                   (e) transmitting the encoded second video frame to a decoder.

1                   3. A method of receiving video information comprising:  
2                   (a) receiving an encoded first video frame;  
3                   (b) reconstructing the first video frame from said encoded first video  
4 frame;  
5                   (c) obtaining structural information inherent in said image data;  
6                   (d) receiving kinetic information describing a second video frame in terms  
7 of said structural information of said first video frame; and  
8                   (e) reconstructing said second video frame.

1                   4. A video codec comprising an encoder and a decoder, said encoder  
2 configured to:  
3                   obtain a first video frame containing image data;  
4                   segment said first video frame to obtain structural information inherent in  
5 said image data;

6                   obtain a second video frame to be encoded relative to said first video  
7   frame;  
8                   compute kinetic information for describing said second video frame in  
9   terms of said structural information of said first video frame; and  
10                  transmit said kinetic information to a decoder for use in reconstructing said  
11   second video frame based on said decoder's generation of said structural information of  
12   said first video frame; and  
13                  said decoder configured to:  
14                  receive said encoded first video frame;  
15                  reconstruct said first video frame from said encoded first video frame;  
16                  segment said first video frame to obtain said structural information;  
17                  receive said kinetic information; and  
18                  reconstruct said second video frame by combining said kinetic information  
19   with said structural information.

1                  5. An encoder comprising:  
2                  (a) a first module configured to receive a first video frame;  
3                  (b) a second module configured to encode said first video frame;  
4                  (c) a third module configured to decode said first video frame;  
5                  (d) a fourth module configured to determine the structural characteristics  
6   of said first video frame;  
7                  (e) a fifth module configured to order said structural characteristics of said  
8   first video frame;  
9                  (f) a sixth module configured to obtain a second video frame;  
10                 (g) a seventh module configured to code a difference between said  
11   structural characteristics of said first video frame and the structural characteristics of said  
12   second video frame; and  
13                 (h) an eighth module configured to transmit said difference.

1                  6. A decoder comprising:  
2                  (a) a first module configured to receive a first video frame;  
3                  (b) a second module configured to decode said first video frame;  
4                  (c) a third module configured to determine the structural characteristics of  
5   said first video frame;

- 6 (d) a fourth module configured to order said structural characteristics of  
7 said first video frame;  
8 (e) a fifth module for receiving a difference between said structural  
9 characteristics of said first video frame and the structural characteristics of a second video  
10 frame; and  
11 (f) a module for decoding the difference.

1 7. An apparatus for synchronized encoding and decoding of video  
2 information comprising:

- 3 (a) an encoder configured to obtain a first video frame, encode said first  
4 video frame, decode said first video frame, and obtain structural information for said first  
5 video frame; and  
6 (b) a decoder configured to obtain said first video frame, decode said first  
7 video frame, and obtain structural information for said first video frame.

1 8. A signal embodied in a carrier wave comprising kinetic information  
2 describing a second video frame in terms of the structural information of a first video  
3 frame.

1 9. A signal embodied in a carrier wave comprising coefficients derived  
2 from a set of basis functions describing a second video frame in terms of the structural  
3 information of a first video frame.